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METEOROLOGICAL DATA REPORT

NIKE-HYDAC STV (SR-041)
(25 October 1966)

BY

LEN E. CARTER

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECONI

UNITED STATES ARMY ELECTRONICS COMMAND

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ABSTRACT

Meteorological data gathered for the launching of Nike-Hydrac STV (SR-041) are presented for the Ballistic Systems Division of the U. S. Air Force, Avco Corporation and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.

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INTRODUCTION

Nike-Hydrac STV (SR-041) was launched from Launch Complex 33, L-314, White Sands Missile Range (WSMR), New Mexico, at 1320 hours MST, 25 October 1966.

Meteorological data used in conjunction with theoretical calculations to predict rocket impact were collected by the Meteorological Support Division, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The Ballistics Meteorologists for this firing were Len E. Carter and John H. Sharpe.

DISCUSSION

Wind data for the first 216 feet above the surface were obtained from a system composed of 5 Aerovanes mounted on a 216-foot tower and cabled to five component wind indicators.

From 216 to 4,000 feet above the surface, wind data were obtained from double-theodolite-observed balloon ascents.

Temperature, pressure, and humidity data, along with upper wind data from 4,000 to 73,497 feet above the surface, were obtained from standard rawinsonde observations.

Mean wind component values in each ballistic axis were determined from vertical cross sections by the equal-area method.

Theoretical rocket performance values and ballistic factors as a function of altitude were provided by ASL, and are the basis for data appearing in Table VIII.

PAYLOAD		233	Pounds
CORIOIIS DISPLACEMENT	WEST	4.9	Miles
SECOND-STAGE IGNITION	TIME	20.2	Seconds
	ALTITUDE	36,673	Feet NSL
PEAK	TIME	236.2	Seconds
	ALTITUDE	718,586	Feet NSL
UNIT WIND EFFECT			Miles/MPH
		2.575	Miles/MPH
			Miles/MPH
TOWER TILT EFFECT		14.08	Miles/Degree

TABLE I. THEORETICAL ROCKET PERFORMANCE VALUES
NINE-HYDAC STV (SR-041)

LAYERS IN MIST ABOVE GROUND	BALLISTIC FACTORS
0- 11	.0000
11- 30	.1482
30- 100	.1088
100- 148	.0671
148- 184	.0534
184- 216	.0315
216- 300	.0835
300- 400	.0481
400- 600	.0787
600- 800	.0503
800-1000	.0432

LAYERS IN MIST ABOVE GROUND	BALLISTIC FACTORS
1000- 1400	.0703
1400- 2000	.0583
2000- 2500	.0499
2500- 3000	.0166
3000- 3500	.0203
3500- 4000	.0041
4000- 4863	-.0067
4863- 9000	-.0109
9000-15000	-.0124
15000-21000	-.0104
21000-24000	-.0072

LAYERS IN MIST ABOVE GROUND	BALLISTIC FACTORS
24000-34617	-.0057
34617-34000	.0413
34000-36000	.0315
36000-41000	.0343
41000-46000	.0126
46000-51000	.0055
51000-58000	.0015
58000-61000	.0084
61000-68000	.0019
68000-73497	.0009

TABLE II. BALLISTIC FACTORS
NICE-HYDAG STV (SR-041)

AERO- VANE NO. *	MEAN WIND COMPONENTS IN KILMS. PER HOUR											
	1 1150 MST		2 1200 MST		3 1235 MST		4 1250 MST		5 1300 MST		6 1310 MST	
	7 1320 MST		8 1330 MST		9 1340 MST		10 1350 MST		11 1360 MST		12 1370 MST	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
1	0.0	2.0E	1.0N	0.5E	2.0N	0.0	1.0N	0.0	1.0N	1.0E	1.0E	2.0E
2	0.0	2.0	0.0	2.0	3.0	0.0	0.0	2.0E	0.0	2.0	0.0	2.0
3	0.0	2.0	0.0	0.0	2.0	0.0	1.0N	0.0	1.0N	0.0	1.0N	2.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0
5	0.0	2.0E	0.0	2.0E	0.0	0.0	0.0	2.0E	0.0	2.0N	1.0N	2.0

TABLE III. ANEMOMETER WIND SPEED AND DIRECTION
NIKE-HYDAC STV (SR-041)

* Heights corresponding to Aerovane Numbers: 1 = 35 Feet 3 = 125 Feet 5 = 200 Feet
2 = 55 Feet 4 = 165 Feet

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN KNOTS PER HOUR													
	1 1150 MST		2 1220 MST		3 1235 MST		4 1250 MST		5 1300 MST		6 1310 MST		7 1350 MST	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
20- 300	2.0N	1.0E	1.0N	1.5E	1.0N	0.0	0.5N	2.0E	1.0N	2.0E	2.5N	0.5E	1.5E	1.0E
300- 400	3.5	0.5	3.5	2.0	2.5	0.5E	1.0	2.0	3.0	1.5	0.5	1.5	0.0	0.5W
400- 600	2.5	2.0	4.5	0.5	4.0	2.0	2.0	2.0	4.5	2.0	0.0	2.0	0.0	0.5
600- 800	2.0	2.0	4.0	0.0	4.5	1.5	2.0	1.0	4.0	2.5	0.0	3.0	0.0	0.0
800-1000	1.5	3.0	3.5	0.5E	4.5	2.0	2.0	1.0	4.0	3.0	0.0	2.0	0.0	1.5N
1000-1400	2.5	2.5	3.0	0.0	4.5	2.5	1.0	0.5W	2.0	3.0	0.5W	0.5	0.0	3.0
1400-2000	3.0	0.5	3.0	0.5W	3.5	2.0	2.0	1.0E	0.0	2.0	0.0	0.0	1.5E	3.0
2000-2500	3.0	1.5W	3.0	0.0	0.0	2.0	0.0	0.0	2.5E	0.0	0.0	0.0	0.5	0.5
2500-3000	4.0	1.0E	1.0	0.0	2.5E	0.0	1.0E	1.0E	2.5W	2.5W	1.5E	1.0E	1.5	0.5
3000-3500	0.0	3.0	2.5E	1.5E	2.5	2.0E	3.0	2.5E	2.5	2.5	2.0	1.5	2.5	0.0
3500-4000	4.0E	3.0	5.5	2.5	4.5	4.0	5.0	3.5	7.5	1.0	3.0	1.5	2.0	0.5W

TABLE IV. PILOT-BALLOON-OBSERVED WIND DATA
NINH-HUAI STN (GR-012)

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN KNOTS					
	1 1035 MST		2 1320 MST			
	N-S	E-W	N-S	E-W	N-S	E-W
8000-8263	2.0S	6.0E	4.0S	0.5W		
8263-13000	2.5N	8.0	1.5	5.0E		
13000-19000	17.0	0.0	16.0W	3.0		
19000-25000	21.5	4.0W	18.5	3.5		
25000-30000	17.0	6.0E	8.0	2.5		
30000-36647	10.5	9.0	6.5	7.5		
36647-38000	13.0	7.5	10.5	6.0		
38000-40000	14.0	8.0	11.0	6.5		
40000-45000	17.0	0.0	19.0	7.0W		
45000-50000	12.0	7.0W	14.5	12.0		
50000-55000	9.5	5.5	9.0	7.5		
55000-60000	2.5	8.0E	2.0S	6.0E		
60000-65000	9.0S	1.5	0.0	6.0		
65000-70000	0.5N	4.0	2.5S	6.0		

TABLE V. RAWINSONDE-MEASURED WIND DATA
NIKE-HYDAC STV (SR-041)

STATION ALTITUDE. 3989.0 FEET MSL
25 OCT. 66 1035 HRS MST
ASCENSION NO. 835

UPPER AIR DATA
0284003904
WHITE SANDS SITE
TABLE VI

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
3989.0	890.0	17.8	-3.6	23.0	1063.7	664.8	30.0	30.0	7.0	1.000258
4000.0	889.6	17.7	-3.7	23.0	1063.6	664.7	29.9	29.9	7.0	1.000258
4500.0	873.8	14.0	-6.8	23.0	1058.5	660.3	26.8	26.8	6.2	1.000253
5000.0	858.1	14.0	-6.8	23.0	1039.6	660.4	23.8	23.8	5.5	1.000248
5500.0	842.7	14.7	-6.2	23.0	1018.2	661.2	20.7	20.7	4.7	1.000244
6000.0	827.5	13.8	-7.0	23.0	1003.1	660.1	17.6	17.6	4.0	1.000240
6500.0	812.5	12.9	-7.8	23.0	988.2	659.0	32.3	32.3	3.2	1.000236
7000.0	797.7	11.9	-8.6	23.0	973.6	657.9	65.5	65.5	2.5	1.000232
7500.0	783.3	11.0	-9.4	23.0	959.2	656.8	92.5	92.5	2.8	1.000228
8000.0	769.1	10.0	-10.2	23.0	945.0	655.7	113.3	113.3	4.3	1.000224
8500.0	755.2	9.1	-11.0	23.0	931.0	654.6	123.6	123.6	5.4	1.000220
9000.0	741.5	8.1	-11.8	23.0	917.3	653.5	127.1	127.1	6.2	1.000216
9500.0	728.0	7.2	-12.6	23.0	903.7	652.3	121.1	121.1	6.0	1.000213
10000.0	714.8	6.2	-13.4	23.1	890.4	651.2	112.6	112.6	5.5	1.000209
10500.0	701.5	5.1	-14.1	23.5	877.4	649.9	95.9	95.9	4.9	1.000206
11000.0	688.5	4.0	-14.9	23.9	864.7	648.5	78.6	78.6	4.3	1.000202
11500.0	675.7	2.9	-15.6	24.3	852.1	647.2	63.1	63.1	5.2	1.000199
12000.0	663.1	1.7	-16.4	24.7	839.7	645.9	47.7	47.7	6.2	1.000196
12500.0	650.8	0.9	-16.9	25.1	826.7	644.9	37.2	37.2	7.4	1.000192
13000.0	638.5	0.5	-17.1	25.4	812.3	644.4	26.8	26.8	8.7	1.000189
13500.0	626.5	0.1	-17.3	25.8	798.2	643.9	17.7	17.7	10.3	1.000186
14000.0	614.7	-0.4	-17.8	25.8	784.6	643.3	9.5	9.5	11.7	1.000183
14500.0	603.1	-1.3	-18.8	25.0	772.3	642.3	4.9	4.9	12.3	1.000179
15000.0	591.7	-2.2	-19.9	24.3	760.1	641.2	2.3	2.3	13.1	1.000176
15500.0	580.4	-3.0	-21.1	23.5	748.1	640.2	3.1	3.1	14.1	1.000173
16000.0	569.4	-3.9	-22.1	22.9	736.3	639.1	3.8	3.8	15.3	1.000169
16500.0	558.3	-5.0	-23.2	22.5	724.9	637.9	4.7	4.7	16.7	1.000166
17000.0	547.5	-6.0	-24.3	22.2	713.6	636.6	5.3	5.3	18.3	1.000164
17500.0	536.9	-7.0	-25.3	21.8	702.5	635.4	5.8	5.8	20.1	1.000161
18000.0	526.5	-8.0	-26.4	21.5	691.5	634.2	5.9	5.9	20.8	1.000158

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1035 HRS MST
ASCENSION NO. 835

UPPER AIR DATA
0284003904
WHITE SANDS SITE
TABLE VI (Cont)

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
18500.0	516.3	-9.0	-27.4	21.1	680.8	632.9		5.8	21.3	1.000155
19000.0	506.3	-10.1	-28.5	20.7	670.2	631.7		7.3	21.3	1.000152
19500.0	496.5	-11.1	-29.5	20.4	659.8	630.5		9.1	21.2	1.000150
20000.0	486.8	-12.1	-30.6	20.0	649.6	629.2		9.9	21.4	1.000147
20500.0	477.0	-13.3	-31.4	20.2	639.3	627.8		10.5	21.5	1.000145
21000.0	467.4	-14.4	-32.3	20.5	629.2	626.4		10.1	21.8	1.000142
21500.0	457.9	-15.6	-33.2	20.7	619.2	625.0		9.5	22.2	1.000140
22000.0	448.7	-16.7	-34.0	21.0	609.4	623.6		7.3	22.6	1.000138
22500.0	439.6	-17.9	-34.9	21.2	599.8	622.2		5.4	22.8	1.000135
23000.0	430.7	-19.0	-35.8	21.4	590.3	620.8		4.6	22.3	1.000133
23500.0	422.0	-20.2	-36.7	21.7	581.0	619.4		4.2	21.7	1.000131
24000.0	413.4	-21.3	-37.5	21.9	571.9	618.0		5.2	21.2	1.000129
24500.0	405.1	-22.5	-38.4	22.2	562.9	616.5		6.9	20.6	1.000127
25000.0	396.9	-23.6	-39.3	22.4	554.1	615.1		9.9	20.0	1.000125
25500.0	388.8	-24.8	-40.2	22.7	545.4	613.7		12.4	19.1	1.000123
26000.0	381.0	-26.0	-41.1	22.9	536.9	612.2		14.5	18.0	1.000121
26500.0	373.1	-27.0	-42.0	23.0	527.9	611.0		15.5	17.3	1.000119
27000.0	365.2	-27.9	-42.7	23.0	518.7	609.9		16.0	16.8	1.000116
27500.0	357.5	-28.8	-43.5	23.0	509.7	608.7		16.3	16.2	1.000114
28000.0	350.0	-29.7	-44.3	23.0	500.8	607.6		16.6	15.5	1.000112
28500.0	342.6	-30.6	-45.1	23.0	492.1	606.4		18.6	15.3	1.000110
29000.0	335.4	-31.5	-45.9	23.0	483.6	605.3		20.9	15.3	1.000108
29500.0	328.3	-32.5	-46.7	23.0	475.2	604.1		25.3	14.8	1.000106
30000.0	321.3	-33.8	-47.9	23.0	467.6	602.5		30.0	14.5	1.000105
30500.0	314.4	-35.1	-49.1	23.0	460.1	600.8		36.3	14.7	1.000103
31000.0	307.6	-36.5	-50.2	23.0	452.8	599.0		41.6	15.0	1.000101
31500.0	300.7	-37.8	-51.8	21.8**	445.1	597.4		42.6	15.1	1.000099
32000.0	293.9	-39.0	-53.5	20.3**	437.3	595.8		43.5	15.1	1.000098
32500.0	287.3	-40.3	-55.2	18.8**	429.8	594.2		44.2	14.4	1.000096
33000.0	280.8	-41.5	-57.0	17.2**	422.3	592.6		42.7	13.7	1.000094

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66
ASCENSION NO. 835

UPPER AIR DATA
0284003904
WHITE SANDS SITE
TABLE VI (Cont)

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
33500.0	274.5	-42.8	-58.8	15.7**	415.0	591.0	38.7	12.9	1.000093
34000.0	268.3	-44.0	-60.6	14.2**	407.9	589.4	35.8	12.5	1.000091
34500.0	262.2	-45.3	-62.5	12.7**	400.8	587.8	33.6	12.2	1.000089
35000.0	256.3	-46.5	-64.5	11.1**	393.9	586.2	33.2	12.7	1.000088
35500.0	250.5	-47.8	-66.6	9.6**	387.2	584.6	33.1	13.4	1.000086
36000.0	244.8	-49.0	-68.8	8.1**	380.6	583.0	32.0	13.8	1.000085
36500.0	239.3	-50.3	-71.3	6.5**	374.0	581.3	30.9	14.3	1.000083
37000.0	233.9	-51.5	-74.0	5.0**	367.7	579.7	29.4	14.5	1.000082
37500.0	228.6	-52.7	-77.3	3.5**	361.4	578.1	27.9	14.7	1.000080
38000.0	223.4	-54.0	-81.8	2.0**	355.2	576.4	27.0	15.3	1.000079
38500.0	218.4	-55.2	-91.1	0.4**	349.2	574.8	26.2	15.8	1.000078
39000.0	213.3	-56.2	0.	-0. **	342.5	573.5	28.4	16.2	1.000076
39500.0	208.2	-57.0	0.	-0. **	335.7	572.4	31.1	16.5	1.000075
40000.0	203.3	-57.9	0.	-0. **	329.0	571.3	29.6	16.6	1.000073
40500.0	198.4	-58.7	0.	-0. **	322.4	570.2	27.5	16.7	1.000072
41000.0	193.7	-59.4	0.	-0. **	315.8	569.2	18.1	16.7	1.000070
41500.0	189.1	-58.5	0.	-0. **	307.0	570.5	8.1	16.8	1.000068
42000.0	184.6	-57.6	0.	-0. **	298.3	571.7	356.4	18.6	1.000066
42500.0	180.2	-57.3	0.	-0. **	290.9	572.1	344.6	20.4	1.000065
43000.0	175.9	-58.1	0.	-0. **	284.8	571.1	341.8	21.3	1.000063
43500.0	171.6	-58.8	0.	-0. **	279.0	570.1	339.2	22.1	1.000062
44000.0	167.5	-59.6	0.	-0. **	273.2	569.1	337.6	21.0	1.000061
44500.0	163.5	-60.3	0.	-0. **	267.6	568.1	336.0	19.8	1.000060
45000.0	159.5	-61.1	0.	-0. **	262.0	567.1	335.4	18.1	1.000058
45500.0	155.7	-61.8	0.	-0. **	256.6	566.1	334.8	16.4	1.000057
46000.0	151.9	-62.6	0.	-0. **	251.4	565.1	328.2	14.2	1.000056
46500.0	148.3	-63.3	0.	-0. **	246.2	564.1	321.2	11.9	1.000055
47000.0	144.7	-64.1	0.	-0. **	241.1	563.1	312.3	11.9	1.000054
47500.0	141.2	-64.6	0.	-0. **	235.8	562.4	303.1	12.1	1.000052
48000.0	137.7	-65.0	0.	-0. **	230.5	561.8	300.2	12.5	1.000051

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1035 HRS MST
ASCENSION NO. 835

UPPER AIR DATA
0284003904
WHITE SANDS SITE
TABLE VI (Cont)

WSTM SITE COORDINATES
E 488,590 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
48500.0	134.3	-65.5	-0.00	225.3	561.2	299.2	13.0	1.000050
49000.0	131.0	-65.9	-0.00	220.2	560.6	301.6	13.4	1.000049
49500.0	127.8	-66.4	-0.00	215.2	559.9	305.2	13.7	1.000048
50000.0	124.6	-66.8	-0.00	209.9	560.0	310.5	13.2	1.000047
50500.0	121.5	-65.6	-0.00	204.1	560.9	316.5	12.3	1.000045
51000.0	118.6	-65.0	-0.00	198.4	561.8	320.0	11.1	1.000044
51500.0	115.6	-65.0	-0.00	193.6	561.7	322.5	9.8	1.000043
52000.0	112.8	-66.0	-0.00	189.6	560.3	322.0	9.5	1.000042
52500.0	110.0	-66.9	-0.00	185.7	559.2	319.9	9.8	1.000041
53000.0	107.2	-67.8	-0.00	182.0	557.9	321.4	9.9	1.000041
53500.0	104.6	-68.8	-0.00	178.3	556.7	326.3	9.9	1.000040
54000.0	102.0	-69.7	-0.00	174.6	555.4	333.8	9.4	1.000039
54500.0	99.4	-69.4	-0.00	170.0	555.9	346.1	8.0	1.000038
55000.0	96.9	-69.0	-0.00	165.5	556.3	358.8	6.9	1.000037
55500.0	94.5	-68.7	-0.00	161.1	556.8	13.6	6.7	1.000036
56000.0	92.2	-68.3	-0.00	156.8	557.3	28.4	6.4	1.000035
56500.0	89.9	-68.0	-0.00	152.6	557.7	43.3	6.7	1.000034
57000.0	87.6	-67.7	-0.00	148.5	558.2	58.3	7.0	1.000033
57500.0	85.4	-67.4	-0.00	144.7	558.5	67.5	6.7	1.000032
58000.0	83.3	-67.6	-0.00	141.2	558.3	75.5	6.2	1.000031
58500.0	81.3	-67.1	-0.00	137.4	558.9	84.5	7.9	1.000031
59000.0	79.3	-66.5	-0.00	133.7	559.7	93.9	10.5	1.000030
59500.0	77.3	-66.0	-0.00	130.0	560.5	105.0	11.7	1.000029
60000.0	75.4	-65.4	-0.00	126.5	561.3	116.9	12.2	1.000028
60500.0	73.6	-64.8	-0.00	123.0	562.0	124.2	11.9	1.000027
61000.0	71.8	-64.2	-0.00	119.7	562.8	129.8	11.3	1.000027
61500.0	70.0	-63.7	-0.00	116.4	563.6	139.5	10.0	1.000026
62000.0	68.3	-63.1	-0.00	113.3	564.3	150.3	8.4	1.000025
62500.0	66.6	-62.5	-0.00	110.2	565.1	154.7	7.5	1.000025
63000.0	65.0	-62.3	-0.00	107.4	565.4	157.5	6.7	1.000024

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1035 HRS MST
ASCENSION NO. 835

UPPER AIR DATA
0284003904
WHITE SANDS SITE
TABLE VI (Cont)

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	63.4	-62.3	0.	-0. **	104.8	565.4	165.4	165.4	5.0	1.000023
64000.0	61.9	-60.6	0.	-0. **	101.5	567.7	174.5	174.5	3.1	1.000023
64500.0	60.4	-58.3	0.	-0. **	97.9	570.8	211.5	211.5	2.7	1.000022
65000.0	59.0	-57.7	0.	-0. **	95.4	571.5	257.0	257.0	2.6	1.000021
65500.0	57.6	-57.8	0.	-0. **	93.2	571.4	286.1	286.1	3.9	1.000021
66000.0	56.2	-58.0	0.	-0. **	91.0	571.2	308.6	308.6	5.6	1.000020
66500.0	54.9	-58.1	0.	-0. **	88.9	571.0	327.8	327.8	6.0	1.000020
67000.0	53.6	-58.2	0.	-0. **	86.8	570.8	343.8	343.8	5.2	1.000019
67500.0	52.3	-57.7	0.	-0. **	84.6	571.6	0.1	0.1	4.5	1.000019
68000.0	51.1	-56.5	0.	-0. **	82.1	573.1	19.0	19.0	4.3	1.000018
68500.0	49.9	-55.3	0.	-0. **	79.8	574.6	37.9	37.9	4.1	1.000018
69000.0	48.7	-54.6	0.	-0. **	77.6	575.6	53.1	53.1	3.9	1.000017
69500.0	47.6	-55.1	0.	-0. **	76.0	574.9	65.8	65.8	3.5	1.000017
70000.0	46.4	-55.6	0.	-0. **	74.4	574.3	77.4	77.4	3.2	1.000017
70500.0	45.3	-56.2	0.	-0. **	72.8	573.6	72.0	72.0	2.9	1.000016
71000.0	44.3	-56.7	0.	-0. **	71.3	572.9	66.7	66.7	2.5	1.000016
71500.0	43.2	-56.5	0.	-0. **	69.6	573.1	65.5	65.5	2.3	1.000015
72000.0	42.2	-56.2	0.	-0. **	67.8	573.6	68.0	68.0	2.0	1.000015
72500.0	41.3	-55.8	0.	-0. **	66.1	574.0	70.4	70.4	1.8	1.000015
73000.0	40.3	-55.4	0.	-0. **	64.5	574.5	86.3	86.3	2.6	1.000014
73500.0	39.4	-55.1	0.	-0. **	62.9	575.0	102.6	102.6	3.6	1.000014
74000.0	38.4	-54.7	0.	-0. **	61.3	575.5	119.9	119.9	4.0	1.000014
74500.0	37.5	-54.4	0.	-0. **	59.8	576.0	139.2	139.2	3.6	1.000013
75000.0	36.7	-54.0	0.	-0. **	58.3	576.4	158.5	158.5	3.2	1.000013
75500.0	35.8	-53.6	0.	-0. **	56.8	576.9	121.6	121.6	2.3	1.000013
76000.0	35.0	-53.3	0.	-0. **	55.4	577.4	64.2	64.2	1.3	1.000012
76500.0	34.2	-52.9	0.	-0. **	54.1	577.9	14.1	14.1	0.7	1.000012
77000.0	33.4	-52.5	0.	-0. **	52.7	578.3	22.9	22.9	2.8	1.000012
77500.0	32.6	-52.2	0.	-0. **	51.4	578.8	31.8	31.8	4.9	1.000011
78000.0	31.8	-51.8	0.	-0. **	50.1	579.3	41.9	41.9	6.5	1.000011

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1035 HRS MST
ASCENSION NO. 835

UPPER AIR DATA
0284003904
WHITE SANDS SITE
TABLE VI (Cont)

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		DIRECTION DEGREES(TN)	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS		SPEED KNOTS		
93500.0	15.5	-45.8	0.	-0. **	23.8	587.1	77.3	77.3	18.3	1.000005	
94000.0	15.2	-45.6	0.	-0. **	23.2	587.4	81.5	81.5	18.2	1.000005	
94500.0	14.8	-45.3	0.	-0. **	22.7	587.7	86.2	86.2	17.5	1.000005	
95000.0	14.5	-45.1	0.	-0. **	22.2	588.0	91.0	91.0	16.8	1.000005	
95500.0	14.2	-44.9	0.	-0. **	21.6	588.3	96.4	96.4	16.2	1.000005	
96000.0	13.9	-44.6	0.	-0. **	21.1	588.6	103.3	103.3	15.5	1.000005	
96500.0	13.6	-44.4	0.	-0. **	20.7	588.9	110.3	110.3	14.8	1.000005	
97000.0	13.3	-44.2	0.	-0. **	20.2	589.2	117.3	117.3	14.1	1.000004	
97500.0	13.0	-43.9	0.	-0. **	19.7	589.5	127.6	127.6	13.4	1.000004	
98000.0	12.7	-43.7	0.	-0. **	19.3	589.8	137.7	137.7	12.7	1.000004	
98500.0	12.4	-43.5	0.	-0. **	18.8	590.1	147.9	147.9	11.9	1.000004	
99000.0	12.1	-43.3	0.	-0. **	18.4	590.4	157.4	157.4	12.2	1.000004	
99500.0	11.9	-43.0	0.	-0. **	18.0	590.7	166.9	166.9	12.7	1.000004	
100000.0	11.6	-42.8	0.	-0. **	17.5	591.0	176.3	176.3	13.1	1.000004	
100500.0	11.3	-42.6	0.	-0. **	17.1	591.3	181.8	181.8	13.3	1.000004	
101000.0	11.1	-42.3	0.	-0. **	16.7	591.6	185.2	185.2	13.5	1.000004	
101500.0	10.8	-42.1	0.	-0. **	16.3	591.9	188.7	188.7	13.6	1.000004	
102000.0	10.6	-41.9	0.	-0. **	16.0	592.2	191.4	191.4	13.5	1.000004	
102500.0	10.4	-41.6	0.	-0. **	15.6	592.4	193.4	193.4	13.1	1.000003	
103000.0	10.1	-41.4	0.	-0. **	15.2	592.7	195.4	195.4	12.6	1.000003	
103500.0	9.9	-41.2	0.	-0. **	14.9	593.0	197.8	197.8	12.2	1.000003	
104000.0	9.7	-41.0	0.	-0. **	14.5	593.3	201.9	201.9	11.7	1.000003	
104500.0	9.5	-40.7	0.	-0. **	14.2	593.6	205.9	205.9	11.2	1.000003	
105000.0	9.3	-40.5	0.	-0. **	13.9	593.9	210.0	210.0	10.7	1.000003	
105500.0	9.1	-40.3	0.	-0. **	13.6	594.2	221.2	221.2	10.1	1.000003	
106000.0	8.9	-39.3	0.	-0. **	13.2	595.4	232.5	232.5	9.4	1.000003	
106500.0	8.7	-38.1	0.	-0. **	12.9	596.9	243.8	243.8	8.8	1.000003	
107000.0	8.5	-36.9	0.	-0. **	12.5	598.4	244.1	244.1	9.0	1.000003	
107500.0	8.3	-36.5	0.	-0. **	12.2	598.9	240.4	240.4	9.4	1.000003	
108000.0	8.1	-36.8	0.	-0. **	12.0	598.6	236.8	236.8	9.9	1.000003	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1035 HRS MST
ASCENSION NO. 835

UPPER AIR DATA
0284003904
WHITE SANDS SITE
TABLE VI (Cont)

MSTM SITE COORDINATES
E 488.580 FEET
W 183.043 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TND)	SPEED KNOTS	INDEX OF REFRACTION
108500.0	7.9	-37.0	0.	11.7	598.3	231.7	10.1	1.0000003
109000.0	7.8	-37.3	0.	11.5	598.0	224.8	10.1	1.0000003
109500.0	7.6	-37.6	0.	11.2	597.7	216.0	10.1	1.0000003
110000.0	7.4	-37.8	0.	11.0	597.3			1.0000002
110500.0	7.3	-38.1	0.	10.8	597.0			1.0000002
111000.0	7.1	-38.3	0.	10.6	596.7			1.0000002
111500.0	7.0	-38.6	0.	10.3	596.4			1.0000002
112000.0	6.8	-38.8	0.	10.1	596.0			1.0000002
112500.0	6.7	-39.1	0.	9.9	595.7			1.0000002

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1320 HRS MST
ASCENSION NO. 836

UPPER AIR DATA
0284003905
WHITE SANDS SITE
TABLE VII

WSTM SITE COORDINATES
E 488,580 FFYT
N 105,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT/ CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES (TN)	SPEED KNOTS	
3989.0	687.8	22.5	-2.3	19.0	1043.9	670.3	180.0	180.0	1.9	1.000255
4000.0	887.5	22.5	-2.3	19.0	1043.7	670.2	179.8	179.8	1.9	1.000255
4500.0	871.8	20.8	-3.2	19.7	1031.3	668.2	172.6	172.6	1.9	1.000251
5000.0	856.3	19.1	-4.1	20.4	1019.1	666.3	165.3	165.3	1.8	1.000247
5500.0	841.2	17.3	-5.1	21.1	1007.0	664.3	158.1	158.1	1.7	1.000243
6000.0	826.3	15.6	-6.1	21.9	995.2	662.3	150.9	150.9	1.7	1.000239
6500.0	811.7	13.9	-7.1	22.6	983.5	660.3	154.5	154.5	2.0	1.000236
7000.0	797.1	12.4	-8.0	23.2	970.9	658.6	176.5	176.5	2.9	1.000232
7500.0	782.4	11.3	-8.8	23.6	956.9	657.2	109.0	109.0	3.7	1.000228
8000.0	768.0	10.2	-9.5	24.0	943.2	655.9	187.6	187.6	4.4	1.000224
8500.0	753.9	9.0	-10.3	24.5	929.6	654.5	186.0	186.0	4.1	1.000220
9000.0	740.0	7.9	-11.0	24.9	916.3	653.2	184.2	184.2	3.4	1.000217
9500.0	726.4	6.7	-11.8	25.3	903.1	651.9	175.5	175.5	2.2	1.000213
10000.0	713.0	5.6	-12.6	25.7	890.2	650.5	149.0	149.0	1.6	1.000210
10500.0	699.9	4.4	-13.4	26.2	877.4	649.1	76.0	76.0	2.6	1.000206
11000.0	687.0	3.3	-14.2	26.6	864.9	647.8	48.0	48.0	4.0	1.000203
11500.0	674.4	2.1	-15.0	27.0	852.5	646.4	51.7	51.7	5.6	1.000200
12000.0	661.9	1.0	-15.8	27.4	840.4	645.0	48.0	48.0	8.1	1.000196
12500.0	649.8	-0.1	-16.6	27.9	828.4	643.7	42.8	42.8	10.5	1.000193
13000.0	637.6	-0.8	-17.4	27.3	814.8	642.9	35.4	35.4	12.0	1.000190
13500.0	625.5	-1.2	-18.2	26.3	800.6	642.4	27.9	27.9	13.5	1.000186
14000.0	613.7	-1.6	-19.0	25.3	786.6	642.0	20.5	20.5	14.9	1.000182
14500.0	602.0	-2.0	-19.8	24.3	772.9	641.5	14.8	14.8	15.9	1.000179
15000.0	590.6	-2.4	-20.6	23.0	759.4	641.0	9.6	9.6	16.7	1.000175
15500.0	579.4	-3.6	-22.0	22.6	748.5	639.4	8.2	8.2	16.8	1.000172
16000.0	568.3	-5.3	-23.8	22.0	739.0	637.4	6.8	6.8	16.9	1.000169
16500.0	557.4	-5.4	-24.2	21.3	724.9	637.3	5.4	5.4	17.4	1.000166
17000.0	546.7	-6.1	-25.3	20.5	713.0	636.4	4.9	4.9	17.7	1.000163
17500.0	536.1	-7.3	-26.5	20.0	702.3	635.0	6.1	6.1	17.6	1.000160
18000.0	525.6	-8.3	-27.3	20.0	691.1	633.9	8.0	8.0	18.0	1.000157

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1320 HRS MST
ASCENSION NO. 836

UPPER AIR DATA
0284003905
WHITE SANDS SITE
TABLE VII (Cont)

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
18500.0	515.4	-9.2	20.0	680.0	632.7	10.6	16.8	1.000155
19000.0	505.3	-10.1	20.0	669.2	631.6	11.9	19.1	1.000152
19500.0	495.5	-11.1	20.0	658.5	630.5	12.8	19.3	1.000150
20000.0	485.8	-12.0	20.0	648.0	629.3	11.8	20.1	1.000147
20500.0	476.2	-13.1	20.2	637.8	628.0	10.7	20.8	1.000145
21000.0	466.7	-14.4	20.8	628.2	626.5	9.7	21.0	1.000142
21500.0	457.4	-15.7	21.4	618.7	624.9	9.4	21.1	1.000140
22000.0	448.3	-16.9	21.9	609.4	623.3	10.2	21.2	1.000138
22500.0	439.3	-18.2	22.5	600.3	621.8	11.1	20.6	1.000136
23000.0	430.5	-19.5	23.0	591.1	620.3	12.1	19.7	1.000133
23500.0	421.6	-20.4	22.9	581.0	619.1	12.2	18.7	1.000131
24000.0	412.9	-21.3	22.8	571.1	618.0	12.1	17.6	1.000129
24500.0	404.4	-22.2	22.7	561.4	616.9	10.8	17.0	1.000126
25000.0	396.1	-23.1	22.6	551.8	615.7	9.6	16.5	1.000124
25500.0	387.9	-24.1	22.5	542.4	614.6	8.7	15.8	1.000122
26000.0	379.9	-25.0	22.4	533.2	613.5	7.6	15.3	1.000120
26500.0	372.1	-25.9	22.3	524.2	612.3	6.0	15.0	1.000118
27000.0	364.4	-26.8	22.2	515.3	611.2	5.4	14.2	1.000116
27500.0	356.9	-27.7	22.1	506.6	610.0	6.4	12.9	1.000114
28000.0	349.5	-28.7	22.0	498.0	608.9	8.8	11.5	1.000112
28500.0	342.2	-29.8	22.1	489.8	607.5	12.7	10.0	1.000110
29000.0	334.9	-31.1	22.3	482.0	605.8	21.4	8.6	1.000108
29500.0	327.7	-32.4	22.5	474.3	604.2	33.0	7.3	1.000106
30000.0	320.8	-33.7	22.7	466.7	602.5	41.7	7.0	1.000104
30500.0	313.5	-35.0	22.9	459.3	600.9	49.5	7.1	1.000103
31000.0	307.1	-36.3	21.2**	451.7	599.3	46.0	7.8	1.000101
31500.0	300.3	-37.6	18.6**	444.1	597.6	42.8	8.6	1.000099
32000.0	293.6	-38.9	16.1**	436.7	596.0	41.2	9.7	1.000097
32500.0	287.1	-40.2	13.5**	429.4	594.3	39.8	10.6	1.000096
33000.0	280.8	-41.5	11.0**	422.2	592.7	39.2	10.9	1.000094

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1320 HRS MST
ASCENSION NO. 836

UPPER AIR DATA
C284003905
WHITE SANDS SITE
TABLE VII (Cont)

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
33500.0	274.6	-42.7	-63.5	8.4**	415.2	591.0	39.9	11.2	1.000093
34000.0	268.5	-44.0	-67.1	5.9**	408.3	589.4	43.0	11.4	1.000091
34500.0	262.6	-45.3	-72.0	3.3**	401.5	587.7	45.8	11.3	1.000089
35000.0	256.8	-46.6	-82.0	0.8**	394.9	586.1	44.5	10.9	1.000088
35500.0	250.9	-47.8	0.	-0. **	388.0	584.5	40.3	10.7	1.000086
36000.0	245.1	-49.0	0.	-0. **	381.0	582.9	33.0	10.7	1.000085
36500.0	239.4	-50.2	0.	-0. **	374.1	581.4	28.1	10.7	1.000083
37000.0	233.9	-51.4	0.	-0. **	367.4	579.8	24.8	10.7	1.000082
37500.0	228.4	-52.6	0.	-0. **	360.9	578.3	28.2	10.9	1.000080
38000.0	223.2	-53.8	0.	-0. **	354.4	576.7	33.7	11.1	1.000079
38500.0	218.0	-55.0	0.	-0. **	348.1	575.2	36.6	12.6	1.000078
39000.0	212.9	-56.2	0.	-0. **	341.9	573.6	39.3	14.2	1.000076
39500.0	208.0	-57.2	0.	-0. **	335.6	572.2	34.1	14.1	1.000075
40000.0	203.0	-57.8	0.	-0. **	328.4	571.4	28.7	14.1	1.000073
40500.0	198.2	-58.4	0.	-0. **	321.5	570.7	13.2	15.7	1.000072
41000.0	193.5	-58.9	0.	-0. **	314.7	569.9	337.7	17.2	1.000070
41500.0	188.8	-59.4	0.	-0. **	307.8	569.3	347.2	19.1	1.000069
42000.0	184.3	-57.3	0.	-0. **	297.5	572.1	337.1	20.9	1.000066
42500.0	179.9	-57.8	0.	-0. **	291.1	571.4	332.6	22.5	1.000065
43000.0	175.6	-58.3	0.	-0. **	284.8	570.7	328.5	23.6	1.000063
43500.0	171.4	-58.9	0.	-0. **	278.7	570.0	326.8	22.6	1.000062
44000.0	167.3	-59.4	0.	-0. **	272.6	569.3	324.5	21.3	1.000061
44500.0	163.3	-59.9	0.	-0. **	266.8	568.6	320.6	19.6	1.000059
45000.0	159.3	-60.4	0.	-0. **	261.0	567.9	314.2	17.9	1.000058
45500.0	155.5	-61.0	0.	-0. **	255.4	567.2	301.8	16.5	1.000057
46000.0	151.8	-61.5	0.	-0. **	249.9	566.5	293.5	15.9	1.000056
46500.0	148.1	-62.0	0.	-0. **	244.5	565.8	294.6	17.1	1.000054
47000.0	144.6	-62.6	0.	-0. **	239.2	565.0	297.2	18.4	1.000053
47500.0	141.0	-63.3	0.	-0. **	234.1	564.1	303.0	19.4	1.000052
48000.0	137.6	-64.0	0.	-0. **	229.1	563.2	310.2	20.4	1.000051

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1320 HRS MST
ASCENSION NO: 836

UPPER AIR DATA
0284003905
WHITE SANDS SITE
TABLE VII (Cont)

WSM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
48500.0	134.2	-64.6	-0.	224.3	562.2	320.6	21.4	1.000050
49000.0	130.9	-65.3	-0.	219.5	561.3	328.8	21.7	1.000049
49500.0	127.7	-66.0	-0.	214.8	560.4	331.2	19.9	1.000048
50000.0	124.6	-66.5	-0.	210.0	559.7	333.3	17.9	1.000047
50500.0	121.5	-66.8	-0.	205.1	559.3	334.0	15.4	1.000046
51000.0	118.5	-67.1	-0.	200.3	559.0	333.9	13.0	1.000045
51500.0	115.5	-67.4	-0.	195.6	558.6	328.9	11.4	1.000044
52000.0	112.7	-67.6	-0.	191.0	558.2	323.9	9.8	1.000043
52500.0	109.9	-67.9	-0.	186.5	557.8	327.4	9.4	1.000042
53000.0	107.1	-68.8	-0.	182.6	556.6	330.8	9.0	1.000041
53500.0	104.4	-69.7	-0.	178.8	555.5	335.8	7.0	1.000040
54000.0	101.8	-70.5	-0.	175.0	554.3	340.8	4.9	1.000039
54500.0	99.2	-70.1	-0.	170.3	554.8	353.1	4.0	1.000038
55000.0	96.8	-68.4	-0.	164.6	557.2	6.2	3.2	1.000037
55500.0	94.4	-68.2	-0.	160.4	557.5	38.6	3.4	1.000036
56000.0	92.0	-68.0	-0.	156.2	557.7	74.5	3.7	1.000035
56500.0	89.7	-67.8	-0.	152.2	558.0	89.8	3.9	1.000034
57000.0	87.5	-67.6	-0.	148.3	558.3	96.8	4.0	1.000033
57500.0	85.3	-67.4	-0.	144.4	558.6	102.3	4.5	1.000032
58000.0	83.2	-67.1	-0.	140.7	558.9	105.9	5.5	1.000031
58500.0	81.1	-66.9	-0.	137.1	559.1	112.1	6.3	1.000030
59000.0	79.1	-66.7	-0.	133.5	559.4	131.5	6.4	1.000029
59500.0	77.2	-66.5	-0.	130.1	559.7	151.0	6.6	1.000028
60000.0	75.3	-66.1	-0.	126.6	560.3	159.6	5.4	1.000027
60500.0	73.4	-65.4	-0.	123.1	561.3	167.1	4.0	1.000026
61000.0	71.6	-64.6	-0.	119.7	562.3	187.9	2.8	1.000025
61500.0	69.9	-63.9	-0.	116.4	563.3	211.4	1.5	1.000024
62000.0	68.2	-63.1	-0.	113.2	564.3	290.4	1.1	1.000023
62500.0	66.6	-62.4	-0.	110.0	565.3	17.3	1.0	1.000022
63000.0	64.9	-61.6	-0.	107.0	566.3	56.1	1.0	1.000021

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1320 HRS MST
ASCENSION NO. 836

UPPER AIR DATA
0284003905
WHITE SANDS SITE
TABLE VII (Cont)

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	63.4	-60.9	0.	-0.	104.0	567.3	90.5	90.5	1.0	1.000023
64000.0	61.8	-60.1	0.	-0.	101.1	568.3	100.8	100.8	1.3	1.000023
64500.0	60.3	-59.4	0.	-0.	98.3	569.3	109.0	109.0	1.7	1.000022
65000.0	58.9	-58.7	0.	-0.	95.7	570.2	87.9	87.9	2.3	1.000021
65500.0	57.5	-59.0	0.	-0.	93.5	569.8	61.1	61.1	2.9	1.000021
66000.0	56.1	-59.3	0.	-0.	91.4	569.4	57.0	57.0	3.6	1.000020
66500.0	54.8	-59.6	0.	-0.	89.3	569.0	64.0	64.0	4.2	1.000020
67000.0	53.5	-59.4	0.	-0.	87.1	569.3	77.4	77.4	3.9	1.000019
67500.0	52.2	-58.5	0.	-0.	84.7	570.5	97.5	97.5	2.8	1.000019
68000.0	50.9	-57.6	0.	-0.	82.3	571.7	122.9	122.9	2.1	1.000018
68500.0	49.7	-56.7	0.	-0.	80.1	572.9	160.2	160.2	2.0	1.000018
69000.0	48.6	-55.7	0.	-0.	77.8	574.1	197.6	197.6	1.9	1.000017
69500.0	47.4	-55.2	0.	-0.	75.8	574.8	216.3	216.3	2.5	1.000017
70000.0	46.3	-55.1	0.	-0.	74.0	575.0	230.4	230.4	3.1	1.000016
70500.0	45.2	-54.9	0.	-0.	72.2	575.2	244.5	244.5	3.8	1.000016
71000.0	44.2	-54.7	0.	-0.	70.5	575.4	264.4	264.4	3.3	1.000016
71500.0	43.2	-54.6	0.	-0.	68.8	575.6	284.6	284.6	2.7	1.000015
72000.0	42.1	-54.4	0.	-0.	67.1	575.9	299.4	299.4	2.2	1.000015
72500.0	41.2	-54.3	0.	-0.	65.5	576.1	272.5	272.5	1.6	1.000015
73000.0	40.2	-54.1	0.	-0.	63.9	576.3	245.7	245.7	1.0	1.000014
73500.0	39.3	-54.0	0.	-0.	62.4	576.5	235.7	235.7	0.6	1.000014
74000.0	38.3	-53.8	0.	-0.	60.9	576.7	272.9	272.9	1.1	1.000014
74500.0	37.5	-53.7	0.	-0.	59.4	576.9	310.1	310.1	1.6	1.000013
75000.0	36.6	-53.5	0.	-0.	58.0	577.1	334.0	334.0	2.4	1.000013
75500.0	35.7	-53.3	0.	-0.	56.6	577.3	339.0	339.0	3.7	1.000013
76000.0	34.9	-53.2	0.	-0.	55.3	577.5	343.9	343.9	4.9	1.000012
76500.0	34.1	-53.2	0.	-0.	54.0	577.4	351.9	351.9	6.4	1.000012
77000.0	33.3	-53.3	0.	-0.	52.8	577.4	1.7	1.7	7.9	1.000012
77500.0	32.5	-53.3	0.	-0.	51.5	577.3	11.5	11.5	9.4	1.000011
78000.0	31.8	-53.4	0.	-0.	50.4	577.2	19.9	19.9	9.8	1.000011

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1320 HRS MST
ASCENSION NO. 836

UPPER AIR DATA
0284003905
WHITE SANDS SITE
TABLE VII (Cont)

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
78500.0	31.0	-53.4	-0.	49.2	577.2	28.1	10.0	1.000011
79000.0	30.3	-53.5	-0.	48.1	577.1	36.7	10.4	1.000011
79500.0	29.6	-53.5	-0.	47.0	577.1	47.5	11.2	1.000010
80000.0	28.9	-53.5	-0.	45.9	577.0	58.2	12.1	1.000010
80500.0	28.2	-53.6	-0.	44.8	577.0	67.1	12.4	1.000010
81000.0	27.6	-53.2	-0.	43.7	577.5	73.9	12.0	1.000010
81500.0	27.0	-52.6	-0.	42.6	578.3	80.6	11.6	1.000009
82000.0	26.3	-51.9	-0.	41.5	579.2	80.3	11.9	1.000009
82500.0	25.7	-51.3	-0.	40.4	580.0	77.4	12.5	1.000009
83000.0	25.1	-50.6	-0.	39.4	580.8	74.6	13.0	1.000009
83500.0	24.6	-50.0	-0.	38.4	581.7	75.3	13.9	1.000009
84000.0	24.0	-49.4	-0.	37.4	582.5	76.0	14.8	1.000008
84500.0	23.5	-48.7	-0.	36.4	583.3	76.2	15.6	1.000008
85000.0	22.9	-48.2	-0.	35.5	584.0	75.2	15.9	1.000008
85500.0	22.4	-48.1	-0.	34.7	584.1	74.2	16.2	1.000008
86000.0	21.9	-48.0	-0.	33.9	584.2	74.1	16.3	1.000008
86500.0	21.4	-48.0	-0.	33.1	584.3	75.2	16.0	1.000007
87000.0	20.9	-47.9	-0.	32.3	584.4	76.4	15.7	1.000007
87500.0	20.4	-47.8	-0.	31.6	584.5	77.6	14.8	1.000007
88000.0	20.0	-47.8	-0.	30.9	584.6	79.0	13.6	1.000007
88500.0	19.5	-47.7	-0.	30.2	584.7	80.4	12.3	1.000007
89000.0	19.1	-47.6	-0.	29.5	584.8	80.7	12.3	1.000007
89500.0	18.7	-47.5	-0.	28.8	584.9	80.2	13.1	1.000006
90000.0	18.2	-47.5	-0.	28.1	585.0	79.7	14.0	1.000006
90500.0	17.8	-47.4	-0.	27.5	585.1	85.5	14.9	1.000006
91000.0	17.4	-47.3	-0.	26.9	585.2	94.1	15.8	1.000006
91500.0	17.0	-47.2	-0.	26.3	585.2	102.6	16.8	1.000006
92000.0	16.6	-47.2	-0.	25.7	585.3	109.9	18.0	1.000006
92500.0	16.3	-47.1	-0.	25.1	585.4	116.8	19.3	1.000006
93000.0	15.9	-47.0	-0.	24.5	585.5	123.8	20.6	1.000005

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1320 HRS MST
ASCENSION NO. 836

UPPER AIR DATA
0284003905
WHITE SANDS SITE
TABLE VII (Cont)

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
93500.0	15.5	-46.9	-0.	23.9	585.6	130.3	20.2	1.000005
94000.0	15.2	-46.9	-0.	23.4	585.7	136.7	19.5	1.000005
94500.0	14.8	-46.8	-0.	22.8	585.8	143.2	18.9	1.000005
95000.0	14.5	-46.7	-0.	22.3	585.9	152.0	17.2	1.000005
95500.0	14.2	-46.7	-0.	21.8	586.0	160.8	15.5	1.000005
96000.0	13.9	-46.6	-0.	21.3	586.1	169.8	13.7	1.000005
96500.0	13.5	-46.5	-0.	20.8	586.2	180.1	10.9	1.000005
97000.0	13.2	-46.1	-0.	20.3	586.8	190.4	8.0	1.000005
97500.0	13.0	-45.5	-0.	19.8	587.4	202.2	5.8	1.000004
98000.0	12.7	-45.0	-0.	19.3	588.1	222.8	7.0	1.000004
98500.0	12.4	-44.5	-0.	18.9	588.8	243.4	8.2	1.000004
99000.0	12.1	-44.0	-0.	18.4	589.4	263.7	9.4	1.000004
99500.0	11.8	-43.5	-0.	18.0	590.1	277.5	9.4	1.000004
100000.0	11.6	-43.0	-0.	17.5	590.7	291.2	9.5	1.000004
100500.0	11.3	-42.5	-0.	17.1	591.4	305.0	9.6	1.000004
101000.0	11.1	-41.9	-0.	16.7	592.1	312.6	9.7	1.000004
101500.0	10.8	-41.4	-0.	16.3	592.7	314.0	10.0	1.000004
102000.0	10.6	-40.9	-0.	15.9	593.4	315.4	10.2	1.000004
102500.0	10.4	-40.4	-0.	15.5	594.0	316.8	10.5	1.000003
103000.0	10.1	-39.9	-0.	15.1	594.7	317.9	9.6	1.000003
103500.0	9.9	-39.6	-0.	14.8	595.1	318.8	8.1	1.000003
104000.0	9.7	-39.6	-0.	14.4	595.1	319.8	6.6	1.000003
104500.0	9.5	-39.5	-0.	14.1	595.2	320.7	5.1	1.000003
105000.0	9.3	-39.5	-0.	13.8	595.2	323.5	4.7	1.000003
105500.0	9.1	-39.5	-0.	13.5	595.2	327.2	4.8	1.000003
106000.0	8.9	-39.4	-0.	13.2	595.3	330.8	4.8	1.000003
106500.0	8.7	-39.4	-0.	12.9	595.3	334.4	4.9	1.000003
107000.0	8.5	-39.4	-0.	12.6	595.3	345.6	4.3	1.000003
107500.0	8.3	-39.3	-0.	12.4	595.4	358.9	3.5	1.000003
108000.0	8.1	-39.3	-0.	12.1	595.4	12.3	2.8	1.000003

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA

STATION ALTITUDE 3989.0 FEET MSL
25 OCT. 66 1320 HRS MST
ASCENSION NO. 836

0284003905
WHITE SANDS SITE
TABLE VII (Cont)

HSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
103500.0	7.9	-39.3	-0. **	11.8	595.5	25.6	2.0	1.0000003
109000.0	7.8	-39.3	-0. **	11.6	595.5	57.7	2.1	1.0000003
109500.0	7.6	-39.2	-0. **	11.3	595.5	93.3	2.4	1.0000003
110000.0	7.4	-39.2	-0. **	11.1	595.6	128.9	2.6	1.0000002
110500.0	7.3	-39.2	-0. **	10.8	595.6	164.6	2.9	1.0000002
111000.0	7.1	-39.1	-0. **	10.6	595.7			1.0000002
111500.0	7.0	-39.1	-0. **	10.4	595.7			1.0000002
112000.0	6.8	-39.1	-0. **	10.1	595.7			1.0000002
112500.0	6.7	-39.0	-0. **	9.9	595.8			1.0000002
113000.0	6.5	-39.0	-0. **	9.7	595.8			1.0000002
113500.0	6.4	-39.0	-0. **	9.5	595.8			1.0000002
114000.0	6.2	-39.0	-0. **	9.3	595.9			1.0000002
2 114500.0	6.1	-38.9	-0. **	9.1	595.9			1.0000002

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

RELEASE TIME (MST)		SECOND-STAGE IMPACT DISPLACEMENT IN MILES DUE TO WIND										AZI- MUTH (DEG- REES)	THEORETICAL IMPACT FROM LAUNCHER (IN MILES)		
		11-216 FT				216-4000 FT				4000-73497 FT					
		RAWIN- SONDE	PIBAL	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W		N-S	E-W	RANGE
1035	1150	0.0	1.5E	3.2N	1.7E	3.5N	0.8E	6.7N	4.0E	358.3	69.4N		2.1W	69.4	69.4N
1035	1220	0.4N	0.9E	3.7N	0.7E	3.5N	0.8E	7.6N	2.4E	357.0	71.1	3.7W	71.1	71.0N	3.7W
1035	1235	1.9N	0.0	3.5N	1.6E	3.5N	0.8E	8.9N	2.4E	357.0	72.4	3.7W	72.4	72.3N	3.7W
1035	1250	0.6N	0.7E	1.9N	1.6E	3.5N	0.8E	6.0N	3.1E	357.5	69.5	3.0W	69.5	69.4N	3.0W
1035	1300	0.6N	1.1E	2.3N	2.3E	3.5N	0.8E	6.4N	4.2E	358.4	69.8	1.9W	69.8	69.8N	1.9W
1035	1310	0.9N	3.2E	0.5N	1.6E	3.5N	0.8E	4.9N	5.6E	359.6	68.3	0.5W	68.3	68.3N	0.5W
1035	1320	0.4S	2.1E	0.8S	1.2E	3.5N	0.8E	2.3N	4.1E	358.3	65.7	2.0W	65.7	65.7N	2.0W
*1320	*1320	0.4S	2.1E	0.8S	1.2E	3.7N	1.0E	2.5N	4.3E	358.4	65.9	1.8W	65.9	65.9N	1.8W

* Post-Shoot Data

LAUNCHER SETTING (ELEVATION 85.5 DEGREES QE) NO WIND IMPACT PREDICTED SECOND-STAGE IMPACT SECOND-STAGE IMPACT, RADAR TRACK PREDICTED BOOSTER IMPACT ACTUAL BOOSTER IMPACT	AZIMUTH (DEG- REES)	MILES FROM LAUNCHER		
		RANGE	N-S	E-W
	358.9	63.4	63.4N	1.2W
	353.4	63.8	63.4N	6.1W
	357.6	70.0	69.9N	2.9W
	356.5	68.0	67.9N	4.2W
	358.5	0.9	0.9N	0.0
	N/A	N/A	N/A	N/A

TABLE VIII. IMPACT PREDICTION DATA
NIKE-HYDAC STV (SR-041)

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R&D		
(Security classification of title, body of abstract and indexing classification must be entered when the overall report is classified)		
1. ORIGINATOR'S ACTIVITY (Corporate author) U. S. Army Electronics Command Fort Monmouth, New Jersey		2A. REPORT SECURITY CLASSIFICATION UNCLASSIFIED
		2B. GROUP
3. REPORT TITLE METEOROLOGICAL DATA REPORT, NIKE-HYDAC STV (SR-041)		
4. DESCRIPTIVE NOTES (Type of report and inclusive dates)		
5. AUTHOR(S) (Last name, first name, initial) CARTER, Len E.		
6. REPORT DATE November 1966	7A. TOTAL NO. OF PAGES 23	7B. NO. OF REFS None
8A. CONTRACT OR GRANT NO.	8B. ORIGINATOR'S REPORT NUMBER(S) DR-116	
9. PROJECT NO. DA Task IV650212A127-02	9B. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)	
10. AVAILABILITY/LIMITATION NOTICES Distribution of this document is unlimited.		
11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY U. S. Army Electronics Command Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico	
13. ABSTRACT Meteorological data gathered for the launching of Nike-Hydrac STV (SR-041) are presented for the Ballistic Systems Division of the U. S. Air Force, Avco Corporation and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.		

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UNCLASSIFIED

Security Classification

KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
1. Ballistics 2. Meteorology 3. Wind						

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